

Express Mail No. EV 327053699 US

# REMARKS

Claims 62-97 are currently pending and under consideration.

## I. Rejection based on 35 U.S.C. §112, Second Paragraph

Reconsideration is requested of the rejection of claims 70-74, 77-81, and 92-95 based on 35 U.S.C. §112, second paragraph. In particular, the Office objects to claims 70-74, 77-81, and 92-95 for lack of antecedent basis. These claims recite either the term "amidocarbonyl" or "amidosulfonyl", in some form, to describe a substituent on the "Q" aryl or heteroaryl ring. Specifically, the definitions of "Q" for the claims at issue are as follows:

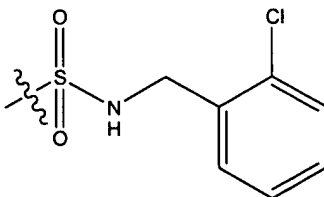
Claim no.	Definition of "Q"
70	3-amidocarbonyl-5-aminophenyl
71	3-amino-5-(N-benzylamidocarbonyl)phenyl
72	3-amino-5-(N-(2-chlorobenzyl)amidocarbonyl)phenyl
73	3-amino-5-(N-(2-chlorobenzyl)amidosulfonyl)phenyl
74	3-amino-5-(N-(trifluoromethylbenzyl)amidocarbonyl)phenyl
77	3-amidocarbonyl-5-aminophenyl
78	3-amino-5-(N-benzylamidocarbonyl)phenyl
79	3-amino-5-(N-(2-chlorobenzyl)amidocarbonyl)phenyl
80	3-amino-5-(N-(2-chlorobenzyl)amidosulfonyl)phenyl
81	3-amino-5-(N-(trifluoromethylbenzyl)amidocarbonyl)phenyl
92	3-amino-5-(N-(benzylamidocarbonyl)-2-thienyl
93	3-amino-5-(N-(2-chlorobenzyl)amidocarbonyl)-2-thienyl

Express Mail No. EV 327053699 US

Claim no.	Definition of "Q"
94	3-amino-5-(N-(2-chlorobenzyl)amidosulfinyl)-2-thienyl
95	3-amino-5-(N-(trifluoromethylbenzyl)amidocarbonyl)-2-thienyl

The Office asserts that the terms "amidocarbonyl" and "amidosulfonyl" lack antecedent basis on the grounds that they possess an extra carbonyl group and/or are further substituted with a benzyl group and such limitations are not found in the claim from which they depend, claim 62. Applicants respectfully traverse this assertion. It appears that the Office has misinterpreted the definitions of these terms as used in this application.

The  $R^9$ - $R^{13}$  variables (substituents on the "Q" aryl or heteroaryl ring) in claim 62 are defined to include "amidosulfonyl" as an option. In turn, the term "amidosulfonyl" is defined in the specification at page 164, lines 3-8, as embracing "amino, monoalkylamino, dialkylamino, monocycloalkylamino, alkyl cycloalkylamino, dicycloalkylamino, N-alkyl-N-arylamino, arylamino, aralkylamino, nitrogen containing heterocyclyl, heterocyclylamino, N-alkyl-N-heterocyclylamino, heteroarylamino, and heteroaralkylamino radicals, attached to one of two unshared bonds in a sulfonyl radical." Thus, the term breaks down to " $-SO_2NR_1R_2$ " where  $R_1$  and  $R_2$  are selected from the groups described in the amidosulfonyl definition. The radical "... (N-(2-chlorobenzyl)amidosulfonyl)phenyl" falls within this definition. The chemical structure of this radical may be depicted as follows:



Express Mail No. EV 327053699 US

In this case, using the formula for amidosulfonyl provided above, the "NR<sub>1</sub>R<sub>2</sub>" moiety is an aralkylamino. This group is specifically allowed under the "amidosulfonyl" definition. Accordingly, the amidosulfonyl radical, as used in this case, does not contain an extra carbonyl moiety and does contemplate further substitution by a benzyl group.

As the examiner correctly noted in the Office action, claim 62, from which claims 70-74, 77-81, and 92-95 depend, recites "carboxamido" as a possible Q substituent.<sup>1</sup> As used in this application, the terms "amidocarbonyl" and "carboxamido" are interchangeable.<sup>2</sup> Accordingly, while it is believed that the term "amidocarbonyl" is acceptable, applicants have amended claims 70-74, 77-81, and 92-95 by replacing the term "amidocarbonyl" with the term "carboxamido" in an effort to advance prosecution. The scope of the claims is not altered by this amendment.

## II. Rejection based on 35 U.S.C. §112, First Paragraph, Written Description

Reconsideration is requested of the rejection of claims 70-74, 77-81, and 92-95 based on 35 U.S.C. §112, first paragraph, as failing to comply with the written description requirement. In particular, the Office asserts that although species which possess an amidocarbonyl or amidosulfonyl moiety are disclosed, there is no guidance as to how these species can be made. To satisfy the written description requirement, a patent specification must describe the claimed invention in sufficient detail that one

---

<sup>1</sup>Both the definitions of "R<sup>9</sup>, R<sup>11</sup> and R<sup>13</sup>" and "R<sup>10</sup> and R<sup>12</sup>" recite the term "carboxamido" as a possibility. R<sup>9</sup>-R<sup>13</sup> are substituents on the Q aryl or heteroaryl ring.

<sup>2</sup> The term "carboxamido" is defined analogously to "amidosulfonyl" in the specification at page 170, lines 6 to 11 to embrace "amino, monoalkylamino, dialkylamino, monocycloalkylamino, alkylcycloalkylamino, dicycloalkylamino, N-alkyl-N-arylamino, arylamino, aralkylamino, nitrogen containing heterocyclyl, heterocyclylamino, N-alkyl-N-heterocyclylamino, heteroarylamino, and heteroaralkylamino radicals, attached to one of two unshared bonds in a carbonyl group."

Express Mail No. EV 327053699 US

skilled in the art can reasonably conclude that the inventor had possession of the claimed invention. Vas-Cath, Inc. v. Mahurkar, 935 F.2d 1555, 1563 (Fed. Cir. 1991).

As in section I above, this rejection appears to be based on the Office's conclusion that the terms "amidocarbonyl" and "amidosulfonyl" possess an extra carbonyl group attached to the amino group (See, Paper No. 21, page 3). As detailed above, this conclusion is traversed. The patent specification describes these two substituents (or "carboxamido", a term equivalent to "amidocarbonyl" as described in section I above) in various places, including: (1) the preferred embodiments beginning at pages 79, 82, 85; (2) the most preferred embodiments beginning at page 88, 91, and 94; (3) the species disclosed at pages 232-238, 253 and 254, as acknowledged by the examiner at page 3 of Paper No. 21; and (4) Scheme 8, which discloses the method by which a wide variety of "Q" groups may be prepared, where the substituents include "...carboxamido, sulfonylamido, and the likes" (page 220 of the specification).

### III. Rejection based on 35 U.S.C. §112, First Paragraph, Enablement

Reconsideration is requested of the rejection of claims 62-67 under 35 U.S.C. §112, first paragraph, for failing to reasonably provide enablement for compounds having substituents such as "amidocarbonyl" or "amidosulfonyl" in the definition of R<sup>9</sup>-R<sup>12</sup>. Paper No. 21, page 3. As discussed under section I above, the rejection appears to be based on the Office's conclusion that the terms "amidocarbonyl" and "amidosulfonyl" possess an extra carbonyl group attached to the amino group. Again, for the reasons stated above, applicants respectfully traverse this conclusion. As described in sections I and II above, these radicals do not possess an extra carbonyl group. According to Paper No. 21, the specification is enabling for compounds having substituents such as "carboxamido" and "sulfonamido." The phrase "amidocarbonyl" has been replaced with "carboxamido" in the claims. Further, the term "amidosulfonyl"

Express Mail No. EV 327053699 US

is defined in the specification to be equivalent to the term "sulfonamido". Consequently, the term "amidosulfonyl" is enabled.

#### **IV. Provisional Nonstatutory Double Patenting Rejection**

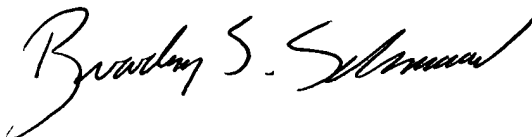
The Office has provisionally rejected claims 62-97 under the judicially created doctrine of obviousness-type double patenting in light of claims 17-24 and 41-44 of copending Application No. 09/574,740. If deemed appropriate, applicants will file a terminal disclaimer after all other rejections have been removed.

#### **V. Conclusion**

In light of the foregoing, applicants respectfully request withdrawal of the objections to the claims and solicit an allowance of the claims. The Examiner is invited to contact the undersigned attorney should any issue remain unresolved.

The Commissioner is hereby authorized to charge any underpayment and credit any overpayment of government fees to Deposit Account No. 19-1345.

Respectfully submitted,



Bradley S. Schammel, Reg. No. 54,667  
SENNIGER, POWERS, LEAVITT & ROEDEL  
One Metropolitan Square, 16th Floor  
St. Louis, Missouri 63102  
(314) 231-5400

EJH/BSS/vlm